

## Forward Thinking:

### Why the Ideas from the Man Who Invented Cubicles Still Make Sense



If rules are made to be broken, it would explain what happened to those that Bob Propst, inventor of Action Office®, the first open-plan panel system, proposed in *The Office: A Facility Based on Change*. Published in 1968, the book is Propst's thoughts on what the office should and could be.

A lot has changed since he penned this book and the new rules it contains. In 1968, 34 million people in the U.S. worked in offices; in 2003, that number had grown to nearly 56 million. People now work both face to face and virtually. Competition for knowledge workers grows, and so have the names for offices: Dilbertville, cube farms, pods, carpeted parking lots—all describing endless floors of grid-patterned cubicles. “Egg-carton geometry,” Propst called them.<sup>1</sup>

In the nearly 40 years since Propst wrote *The Office: A Facility Based on Change*, what has become of his ideas? How have they been applied and misapplied? How does his thinking relate to the future of offices? Will he be remembered as the inventor of the cube farm or a visionary whose ideas are finally coming to fruition?

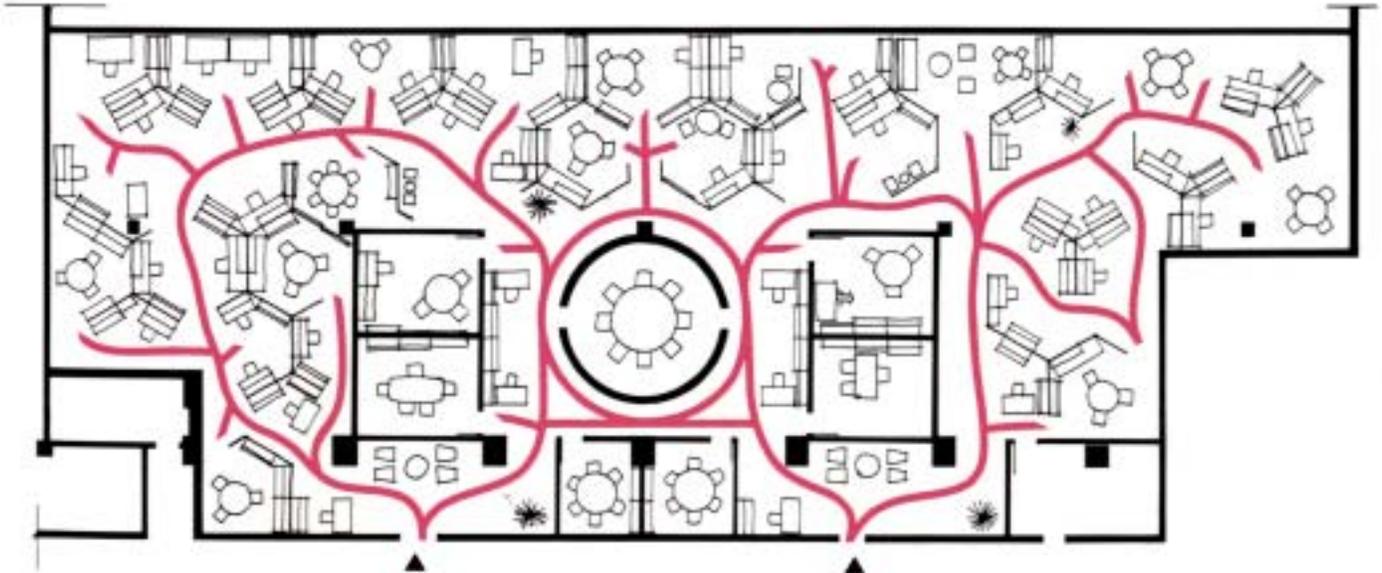
#### Change—the new master

Propst began solving the problem of designing for the office by studying what happens there. What Propst found wasn't encouraging. Offices had become “wasters of effectiveness, vitality, health and motivation,” according to Propst, largely because of their inability to handle change: “Human organizations have always been natural places of change, reflecting the organic nature of life. What is different now is the pace of change and the prospect that it will come faster and faster.”<sup>2</sup>

Since, as Propst wrote, “it is the lack of mobility in our physical facilities that is the most stubborn laggard in offices...it is our buildings, furnishings, and services that have to be revisualized and revitalized.”<sup>3</sup> That response took the form of new rules for the office.

#### Rule #1: Forgiving Principle

Perfectly planned facilities that live happily ever after, said Propst, don't exist. Organizations and the environments in which they operate are becoming more complex. Add unpredictability to the mix, and the first rule emerges: Facility design must have a forgiving behavior. “We must be allowed to change our minds. We must be allowed to respond to errors as they emerge. And this forgiving should not impose significant cost or delay on the user,” wrote Propst.<sup>4</sup>



**Figure 1**  
This floor plan from a 1973 Action Office 2 brochure illustrates the organic patterns and nonlinear hierarchy that defined Propst's view of the office landscape.

### Rule #2: Grace with Change

Disruption is upsetting, and it is also costly to an organization and to the productivity and well-being of an employee. But change is constant. A facility needs to change with ease and also achieve a "well appointed and resolved solution," he noted.<sup>5</sup>

### Rule #3: On-line Planning and Expression

Remember, Propst wrote this in 1968. His use of the term "on-line" is not what it means today. It addresses speed of sharing and accessing information. Rule #3 advocates putting more control of planning in the hands of the user. Too often, Propst states, "everything planned for our use is obsolete before it reaches our hands."<sup>6</sup> Why plan if it can't be realized or altered to achieve the purpose? Users should have a means and the tools necessary for influencing and affecting planning related to their work environments.

### Rules unevenly applied

Cheryl Duvall, a practicing interior designer, recalls little in the way of practical education on planning with systems or for open-plan environments, even though interior design has had an enormous influence on workplace design. As a designer in the 1980s, Duvall's role was to achieve optimum adjacencies and workflow. "How to get enough people in a space. How to provide supervisors with visual connections to the team. Where does the paper start; where does it travel; where does it end up? It was about headcount and adjacencies."<sup>7</sup>

Rick Duffy, vice president of Design Composition at Herman Miller and an interior designer in the 1970s and 1980s, describes the commercial interior design objective as "moving from a facility based on change to one based on efficiency."<sup>8</sup>

By the end of the 1980s, workflow had become more complex. Computers, copiers, and fax machines were entering the picture. Relationships between individuals, teams, and technology were evolving. The interior designer was seldom given time to intellectually consider something, says Martha Whitaker, an interior designer who worked under Propst in the 1970s. "As a result, we just put together the most obvious things. And we were only as good as our clients, so efficiency of space always came into play."<sup>9</sup>

In the 1990s, businesses put renewed focus on saving money.

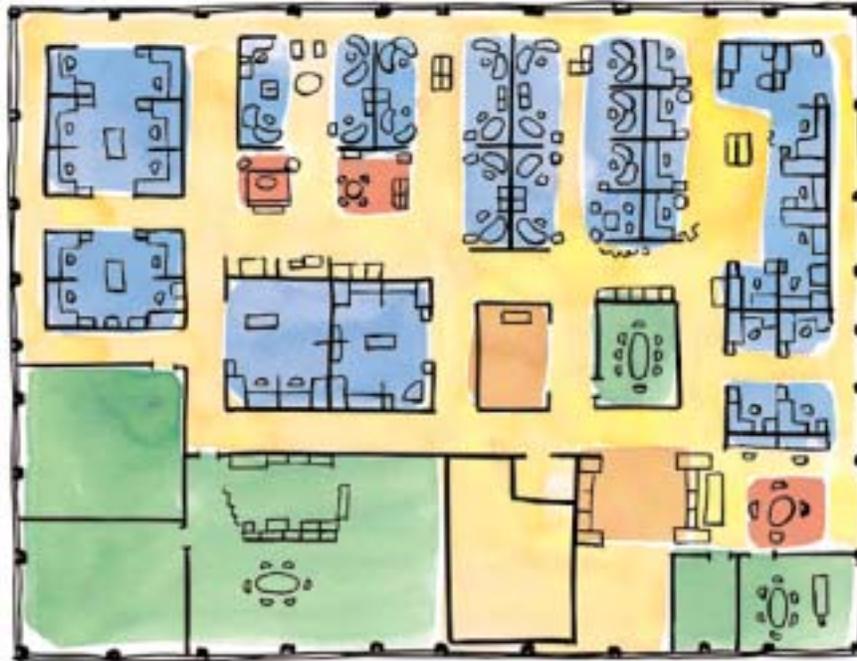
Reducing real estate was one way to do it. The designer's role was to reduce lease expenses and costs, says Duvall. The concept of universal planning—with its cost efficiencies—was well received. So were the new concepts of hoteling and teleworking, which also helped reduce office space. They did not necessarily improve collaboration or employee morale, however. This was also the time when services, such as word processing and reception, became centralized, also in part to decrease real estate.

The open-plan offices Propst first designed in the late 1960s and early 1970s were large, open, and organic forms. (Figure 1) But interior designers seemed to see only economic value in the systems planning, says Whitaker. "Propst once told me that Action Office was just a bunch of 2 x 4s. It could be a pretty thing or an ugly thing, but it was all in the hands of the designer. It was raw material. People couldn't grasp that Action Office was waiting to be created; they just looked at it as furniture already built."<sup>10</sup>

As technology and cost played larger roles in workplace design, says Duffy, the open-plan environment became more of an efficiency tool. And standards programs helped. "We were designing office standards by task, by level, by function. Who gets an 8 x 8? Who gets taller panels?"<sup>11</sup> Whitaker remembers: "Panels at 62 inches, unless you were a secretary, and then it was panels at 42 inches. Those were the considerations driving our decisions."<sup>12</sup>

Planning efficiency was certainly supported by the cubicle, replicated over and over again—the egg-carton concept to which Propst referred. And the cube was and is an efficient shape, easy to plan with, easy to repeat, easy to integrate with architecture and infrastructures.

What resulted, however, was a far cry from Propst's definition of the office as a "kinetic, active, alert, and vigorous environment."<sup>13</sup> He unknowingly described the future of the office as he wrote about what he thought was its past: "There has been a regrettable tendency to try to reduce all offices to a uniform appearance with the only variations being in status orientation. The renewed rise of individuality as a value and the great diversity in what one may be required to do in an office does not allow a continuation of sterile uniformity with status as the only definition."<sup>14</sup>



**Figure 2**  
As the years progressed, organic forms gave way to grid-like linear cubicles. While the uses within this floor plan are mixed with individual and group areas, a rectilinear geometry prevails.

### Rules often misused

In the late 1990s and early 2000s, interior designers started to connect the corporate vision with the corporate facilities. “There was a shift as we became more concerned about the employees,” says Duvall. “At the end of the nineties, there were too few good workers for the available jobs. Now we started asking: How do we attract them? How do we keep them?”<sup>15</sup>

Propst believed that the facility should adapt to the needs of the individuals, and there could be many forms of adaptation. But in the 1980s and 1990s, standards programs and the box move—move people instead of the office—became the predominant planning model. Workers had to adapt to the facility. What happened to a human-focused, individual-focused interior design approach?

In a 1998 interview, Propst offered his opinion on what he considered the misuse of cubicles:

The dark side of this is that not all organizations are intelligent and progressive. Lots are run by crass people who can take the same kind of equipment and create hellholes. They make little bitty cubicles and stuff people in them. Barren, rat-hole places.

I don’t even feel faintly guilty about Dilbert. The things expressed in that comic are the very things we were trying to relieve and move beyond. It was a Dilbert world even back then. Everything we worked toward tried to express something more interesting.<sup>16</sup>

The Action Office system Propst designed in theory wasn’t what it became in practice. Yet open plan systems have a great deal of merit, explains The New Yorker architecture critic Paul Goldberger. “Cubicles are the perfect middle ground between private offices, which are impractical and waste space, and entirely open rooms of desks, which lack privacy and are woefully inefficient because they require people to keep files, books, and personal possessions somewhere else. I don’t hear people using the phrase ‘office landscape’ much anymore, but the reality is that the fundamentals of the cubicle—a waist-high partition, allowing privacy when seated and a little bit of wall space, and a built-in countertop with lots of horizontal surface—are absolutely reasonable and right.”<sup>17</sup>

And the cubicle is especially right when it becomes just one of the features of the entire office landscape, joined by other space types

such as common areas, meeting rooms, private offices, and cafés or public areas. (Figure 2) The *Burolandschaft* (“office landscape”) movement that was occurring in Europe during the time Propst was formulating his ideas had much in common with Propst’s views. The office landscape approach was characterized by a workplace design based on work process and individual needs and less on organizational hierarchy.

The *Burolandschaft* design also embraced more organic forms and fewer linear arrangements, much as Propst’s early layouts did. He believed interior architecture should be flexible enough to follow the variations and changes in an organization’s culture and in the expectations of its work force. One-size-fits-all fits no one.

Propst articulated over 30 years ago the cube-farm conundrum we still see too often: “Office forms created for a way of life substantially dead and gone.”<sup>18</sup> More recently, Herman Miller Research, Design and Development Vice President Don Goeman and Rick Duffy made these observations:

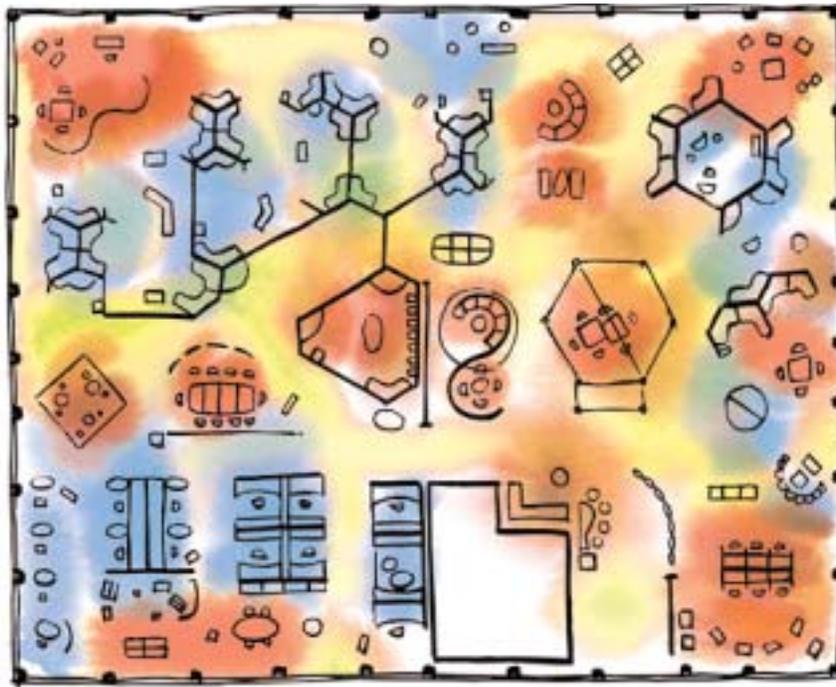
It’s time for the office landscape to do what it’s supposed to do: reflect the realities of the work and the people populating it. It’s time for a new set of planning guidelines, planning tools, social arrangements, communication protocols, new group spaces, work plazas, team neighborhoods, and places for heads-down work alone. It’s time for a new species of interior elements, evolved to help people confront new demands in work environments.<sup>19</sup>

Given that Propst’s rules, applied as he envisioned, still make sense, what is the response to the call for a new way of planning? What are the new rules for these office landscapes, for places that continue to be facilities based on change?

#### Rule #4: Provide choice and variety

The office needs to be a place where people come to create and share.

Propst believed everything about an office was unique, from the individual to the work to the corporate culture. It was impossible to pigeonhole a complex organism. This understanding of the complexity and life of the organization has gained acceptance over the years. Perhaps the physical spaces haven’t always tracked in parallel, but the ways work is approached and gets done is broad and vigorous.



**Figure 3**  
 Taking the same mixed-use areas seen in Figure 2, this floor plan reintroduces the organic forms seen in Propst's early work. Forty years separate this illustration from Figure 1, yet this new office landscape, to use Propst's words, is a "kinetic, active, alert, and vigorous environment."

The choices of where we work, how we work, and when we work are expanding. The office is now competing with the coffee shop, couch, and neighborhood park. While technology has allowed people to communicate anywhere, anytime, and anyplace, the desire for face-to-face communication still exists, perhaps even more so because so much is done through technology.

Business strategist, author, and former head of Shell Oil Charles Handy believes the "office as we know it may be a thing of the past. The office is really a social place, a place to meet and greet."<sup>20</sup> He believes organizations will evolve into adaptable, decentralized organizations whose center is sustained by a common purpose and managed by reciprocal trust. The need to connect physically with others, to come to a place of shared community—a place of work—is a human need. Work is social, writes researcher and consultant Larry Prusak.

Malcolm Gladwell writes in *The Tipping Point* that innovation is social and is also the heart of the knowledge economy. Former Federal Reserve Chairman Alan Greenspan says we now live in an economy where "value is increasingly embodied in ideas rather than tangible capital."<sup>21</sup>

Building an organization's intellectual capital is critical in a highly competitive and knowledge-driven economy. Attracting the most talented employees is vital, as is retaining them. What does the office landscape rich in innovation and creativity look like? And in today's economy, where ideas fuel competitive advantage, how can the work environment enable the collaboration and thinking that produce business results?

### Varying degrees of formality

The work environment needs to accommodate differing degrees of formality—it has to offer more than desks and hard-walled conference rooms, says Laura Leenhouts, researcher at Herman Miller.<sup>22</sup> "Part of the draw to working in a Starbucks is that it has a different energy, a different atmosphere from the traditional workplace," says Leenhouts. "It carries a vibe."

The workplace can do some of that, too, by creating places with degrees of formality. On one end of the formality spectrum is a café or commons area. It is informal, with soft seats, soft lighting. It is a place where it is okay—even expected—to make noise, mingle, take

a break. On the other end of the spectrum are the formal meeting rooms, where activities are better done through scheduled, agenda-based work. Along that spectrum are a variety of formal to informal spaces, for individual work or group work, for scheduled or unscheduled collaboration. (Figure 3)

Creating degrees of formality within the work facility offers choice and variety to its occupants. It also makes people more comfortable in the office, says Leenhouts, whether they prefer formal or informal settings or a combination of both. Varying degrees of formality can give people an option to work differently from day to day, depending on the project and the mood. The result is that comfortable people will most likely be more productive and effective workers, notes researcher Leenhouts. That can advance the organization's business goals, help retain talented employees, and foster knowledge sharing, particularly by creating settings in which exchanges flow rather than move through formal agendas.

### Varying degrees of privacy and interaction

Choice and variety also have to do with creating spaces that offer degrees of privacy and interaction. The degree to which collaboration moves work along is greater than ever, or so it seems. In part this is due to recognition that the workplace is a social community and team-based approaches are becoming the norm. DEGW architect Andrew Laing writes that "the paradigm of the office as a center of collaboration replaces the paradigm of the office as a place where the staff is physically gathered to work individually."<sup>23</sup>

This follows Propst's thinking that workplace environments "were arranged in such a way that workers would be likely to have plenty of contact with each other and with management. That meant planning for communal open space."<sup>24</sup> He wrote that a more interactive and open office will lead to an "organic community of individuals working with a tangible sense of belonging and useful contribution."<sup>25</sup> An organic community of individuals with individual preferences can't be productive or comfortable with a uniform facility approach.

So much work is now done in teams that a private, quiet space to think or work individually is harder to find. What is the balance, then, of spaces that support collaborative work but also concentrated, private work? Teams, after all, are made up of individuals who need to make individual contributions. Leenhouts says one way this is done

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is by creating a facility that offers varying degrees of privacy. “There are times we need privacy and times we don’t. Very few people need privacy all the time.”<sup>26</sup> Giving workers the choice of private and interactive workspaces also adds a comfort level. People know they can find the work setting that suits the task at hand.

A private office doesn’t necessarily mean architecturally private space. In many cases, privacy can be achieved through open-plan offices that offer added controls such as doors and taller partitions. Propst believed planning an effective office space should always start with the user. Some organizations are providing a higher level of privacy within individual offices. Others have designed enclosed spaces for employees on a first-come, first-served basis. And, yes, cubicles are still providing workers with their own spaces. By providing a variety of workspaces, people can choose where they want to work. (Figure 3) Propst would be pleased.

“Privacy isn’t the only answer to what we need,” wrote Propst. “We need involvement. We cannot exist without a full and healthy exchange with others. Involvement is an essential need, a good idea ... to be part of the family of activity.”<sup>27</sup>

That family of activity is creating, preserving, and increasing social and intellectual capital. Propst believed that both privacy and involvement are necessary, that reconciling privacy calls for new forms of enclosure and access. It is important, he wrote, to “preserve the private place with suitable surroundings with much more eloquent design of free access to each other.”<sup>28</sup>

Access to each other can take the form of a brief, unplanned interruption. A Herman Miller report on a company of computer engineers described frequent interaction among coworkers’ this way: “While somewhat unwelcome, the interruptions were necessary. All engineers recognized they had shared goals and that any one of them could find themselves in need of being the interrupter.”<sup>29</sup> Propst talked about reducing distance as essential: “visual access on a demand basis to those you need to see.”<sup>30</sup>

The intellectual landscape of the twenty-first century rises from new and constantly changing connections. The landscape of work environments is also changing to strengthen these connections and give people more variety and choice in where and how to work.

#### **Rule #5: Enrich the work experience**

Work should be stimulating, challenging, and enjoyable. Workplaces can help build a culture that is flexible and open to change and serendipity.

Office spaces can and should stimulate and please employees. One of the ways businesses are attracting and retaining employees is by providing “enticingly positive, energetic, flexible, and dynamic workplaces,” writes business researcher Mary Collette Wallace.<sup>31</sup> Dilbertville is being replaced and supplemented by a variety of shapes and configurations. Monochromatic fabric-covered panels are being replaced by texture and pattern. Integrating elements of nature, organic shapes, and access to natural light, characteristics of Propst’s Action Office facility and Burolandschaft, are becoming common design objectives.

Most important, a multi-venue facility gives workers a varied landscape. This landscape, however, takes work to create. Designing facilities that will offer opportunities for collaboration, escapes into quiet nooks and crannies, and serendipitous moments requires careful planning and creative thinking. A facility based on change can create the backdrop in which eureka moments happen, in which unanticipated meetings and unanticipated consequences result—fortuitous encounters, as Herman Miller founder D.J. De Pree called them.

Businesses are beginning to recognize facilities as strategic business tools, though decades of viewing the facility as a commodity is hard to change. The competitive landscape is forcing change. People are the differentiating factor in business success. Buildings and furniture can enhance productivity and signal changes in culture. We need to create cultures that tune the workplace, like you would a piano, to the people, processes, and projects you want to accommodate, says researcher Leenhouts.

Because change is inevitable, said Propst, it is important that we accept it and change with ease. “It takes a serious organizational rebel to overcome institutionalized expression and sameness.” To make that happen, though, requires thinking always about the user. And this will result in “ungluing many sacred images and design statements. . . . No form is sacred.”<sup>32</sup>

#### **Rules made to build upon**

If the office, as Propst wrote many years ago, has a short and fitful

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history, not deserving of much respectability, how does it look now? Based on its persistent past, it is likely to have a long and good future.

The freedom to work anywhere is a viable option, but people still come to the office. Whether they come to work in their own cubicles or in common areas within a facility, their workplace meets an important need. The office is a business and social hub. As long as it can continue to be looked at as a facility based on change it will present people with new and appropriate ways to work, socialize, and create.

First articulated nearly 40 years ago, Propst's rules continue to resonate even as work and work environments evolve.

**Rule #1:** Forgiving principle. The complexity of organizational environments coupled with the unpredictable course of future directions requires a forgiving behavior in facility design.

**Rule #2:** Grace with change. "If change means a period of dust, confusion, and loss of momentum, it is understandable why the cramped old shoe is lived in too long."<sup>33</sup>

**Rule #3:** On-line programming and expression. Implementation has to be the goal of planning, as does changing one's course if the plan doesn't work. Users are often the best judges of what works.

To this changing work environment, this new office landscape, two additional rules build on Propst's original thinking.

**Rule #4:** Provide choice and variety. The office needs to be a place where people come to create and share.

**Rule #5:** Enrich the work experience. Work should be stimulating, challenging, and enjoyable. Workplaces can help build a culture that is flexible and open to change and serendipity.

Propst defined the workplace as a "kinetic, active, alert, and vigorous environment."<sup>34</sup> The new office landscape can be a vibrant and productive one, as well, when it is designed for the needs of the people working within it. Propst's rules leave their mark everywhere in such an environment.

#### Notes

- 1 Yvonne Abraham, "The Man Behind the Cubicle," *Metropolis*, November 1998.
- 2 *Ibid.*, p. 12.
- 3 *Ibid.*, p. 19.
- 4 *Ibid.*, p. 33.

- 5 *Ibid.*, p. 33.
- 6 *Ibid.*, p. 34.
- 7 Cheryl Duvall, phone interview, December 20, 2005.
- 8 Rick Duffy, personal interview, August 23, 2005.
- 9 Martha Whitaker, phone interview, November 18, 2005.
- 10 *Ibid.*
- 11 Rick Duffy, personal interview, August 23, 2005.
- 12 Martha Whitaker, phone interview, November 18, 2005.
- 13 Robert Propst, *The Office: A Facility Based on Change*, p. 24.
- 14 *Ibid.*, p. 17.
- 15 Cheryl Duvall, phone interview, December 20, 2005.
- 16 Yvonne Abraham, "The Man Behind the Cubicle."
- 17 Paul Goldberger, "The Indomitable Work Space," *Metropolis*, November 1999.
- 18 *Ibid.*, p. 10
- 19 Rick Duffy and Don Goeman, "The New Office Landscape: Why Variety and Choice are Good for Work Environments," *SEE: The Potential of Space* (a Herman Miller publication), Fall 2004, pp. 9-33.
- 20 Lawrence M. Fisher, "The Paradox of Charles Handy," *Strategy+Business*, Issue 32, Third Quarter 2003.
- 21 Alan Greenspan, "Intellectual Property Rights," Stanford Institute for Economic Policy Research Economic Summit, Stanford, California, February 27, 2004 <<http://www.federalreserve.gov/BoardDocs/speeches/2004/200402272/default.htm>> (accessed March 28, 2006).
- 22 Laura Leenhouts, personal interview, March 10, 2006.
- 23 Andrew Laing, "The Future of the Workplace is Now," *DEGW D-News*, edition 05, June 2004 <[http://www.degw.com/dnews/ed\\_5\\_archive\\_leader.html](http://www.degw.com/dnews/ed_5_archive_leader.html)> (accessed March 28, 2006).
- 24 Yvonne Abraham, "The Man Behind the Cubicle."
- 25 Robert Propst, *The Office: A Facility Based on Change*, p. 68.
- 26 Laura Leenhouts, personal interview, March 10, 2006.
- 27 Robert Propst, *The Office: A Facility Based on Change*, p. 25.
- 28 *Ibid.*, p. 26.
- 29 Herman Miller, customer report, 2005.
- 30 Robert Propst, *The Office: A Facility Based on Change*, p. 27.
- 31 Mary Colette Wallace, "Complexity of New Office Designs: Thinking Through Your Future Workplace," *Searcher*, Vol. 8, No. 10 <<http://www.infotoday.com/searcher/nov00/wallace.htm>> (accessed December 13, 2005).
- 32 Robert Propst, *The Office: A Facility Based on Change*, p. 35.
- 33 *Ibid.*, p. 33.
- 34 *Ibid.*, p. 24.